

HONDURAN

FISHERIES SURVEY

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T E A M

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INTRODUCTION

Due to the interest of AID/LAC and AID/Honduras in fishery development a fisheries team visited Honduras for two weeks to assess existing fisheries and to make recommendations for fishery projects. The fisheries team consisted of Norman L. Pease, S & T, USAID/W; Rolf Juhl, NMFS, St. Petersburg, Fla. and Donald McCreight, University of Rhode Island, Kingston, R.I. During the survey the team visited fishery activities on the north coast from Puerto Cortés to La Ceiba, including Raotán Island. On the Pacific coast they visited the Gulf of Fonseca area.

The only fishery resources fully exploited in Honduras are the shrimp and lobster resources. Shrimp and lobster fishermen work primarily on the northeast coast of Honduras. The fish by-catch of the shrimp vessels is currently being discarded. There are indications that there are other resources off the N.E. coast which are not being utilized or just minimally utilized.

Artisanal fishing communities are scattered along the coasts. These fishermen use dugout canoes, generally self-propelled. The canoes are worked in shallow water, close to shore where the catch is limited. West of La Ceiba fish resources are reportedly very poor. Artisanal fishing villages are characterized as being at the poverty level.

Existing fisheries

It appears that shrimp and lobster stocks are fully if not over exploited. Ultimately, these resources should be placed under a management regime to maintain the resources in a viable condition. There are approximately 3,100 Hondurans employed by these two fisheries both afloat and ashore. The shrimp and lobster fleet on the north coast and Bay Islands consists of 133 shrimp boats and 72 lobster boats, as reported in 1980. Their annual production in 1980 was 2.6 million lbs. of shrimp tails and 2 million lbs. of lobster tails.

The artisanal fishery is underdeveloped owing to a poor infrastructure, lack of capital and no training program. In 1980 FAO estimated that there are approximately 4,000 artisanal fishermen, 3,000 on the north coast and 1,000 on the Pacific coast. They are using about 1,500 dugout canoes, mostly self-propelled although some have outboard motors. They produce about 1,200 m.t. of fish annually. This fishery is marginal because the fishermen use only rudimentary gear and want to stay in sight of land, thus restricting their harvesting potential.

There are approximately 300 registered inland fishermen. Unregistered fishermen probably could double the above figure. These fishermen use 3 to 4 meter dugout canoes. Statistical data from Lake Yojoa indicated an annual production of 80 metric tons in 1980. Dynamite and a toxin from plant roots are apparently still being used in rivers and streams. It appears that environmental degradation is occurring in these inland fisheries due to pollutants, the use of toxins and deforestation.

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SUMMARY

The only fishery resources in Honduras which are currently fully exploited are lobsters and shrimp. Their combined annual production rate is 4,000 metric tons. Additional exploitable resources are snapper, grouper, tuna, shark, squid, octopus, scallops and clams.

The continental shelf off the northeast coast totals 40,000 sq/Kms. This is equivalent to 40% of the total land mass of Honduras. Within this area the unutilized resources are estimated to be 60,000 metric tons. Up to 30,000 metric tons of these resources are being caught and discarded with another 30,000 metric tons available for harvesting.

During our travels most people contacted, both government and private sector, commented extensively on the lack of information on the marine resources off the N.E. coast. This information is necessary to interest the private sector to invest in this area. Therefore, we recommend the Mission consider a 3-year stock assessment survey in the northeast using an existing RENARE vessel with at least 3 outside scientists and 3 GOH counterparts.

A program should be developed to utilize the fish taken in the shrimp fishery which are now being discarded.

With the information obtained during the resource survey, joint ventures could be promoted such as developing a longline fishery for snapper and grouper in the northeast.

Institutional building is essential to provide qualified staff to develop and implement an effective fishery management plan. An initial effort of inservice training could be implemented through the Cooperative Agreement S & T/AGR has with the University of Rhode Island.

In the Gulf of Fonseca we consider that an alternative use of salt ponds would be to raise brine shrimp. This would provide an improved income and would reduce the estuary degradation caused by the cutting of mangrove trees for fuel in the salt drying process.

Honduran Fishery Goal

The GOH wants to increase its marine fishery production to provide more protein for in-country consumption and to expand its exports. To achieve these goals RENARE needs to be strengthened to increase its effectiveness, specifically in development, fishery management, research/statistics, enforcement, quality control and distribution.

Recommended Projects

1. Stock Assessment Survey

It appears there are several marine resources not being exploited adequately. These are snapper/grouper, sharks, tunas, shellfish, other than shrimp or lobster, such as squid, octopus, scallops and clams. These resources may occur in commercial quantities and research should be conducted to assess the quantities available. This would require a team of at least 3 outside experts and an existing RENARE vessel could be used. Estimated cost would be between \$ 500,000 to \$ 1 million per year.

To proceed with the development of the above mentioned resources we recommend that the Mission recruit a team to develop a Project Implementation Document for a survey. The University of Rhode Island under its cooperative with S & T has faculty available to prepare this PID. A team of four would be required with the following areas of expertise: biologist, fishing gear, economist, socio-cultural aspects and training. The team would require a 30 day in-country working period. If the Mission covered the in-country expenses of the team URI could cover salaries of the team and travel to Honduras.

2. Shrimp By-catch utilization

Based on Honduran shrimp production we estimate there are 20,000 - 40,000 metric tons/yr of fish produced as by-catch. In recent years, Colombia, Guyana and Mexico have developed the utilization of their shrimp by-catch therefore we feel it can be done in Honduras.

These fish can be utilized in the following methods: (a) whole fish for fresh consumption, (b) processed minced fish for human consumption (c) the remaining, for either animal feed or fertilizer.

3. Private Sector Joint Ventures

During discussions with Allan Hyde of Roatán he expressed his interest in finfish production and processing. Specifically a fishery for snapper/grouper off N.E. Honduras. Due to bottom conditions in that area special gear and methods have to be used. Such a method, a bottom long-line, has been developed and is currently being used in the Gulf of Mexico, New Zealand and Australia. The developer of this method, a U.S. fisherman who lives in Puerto Rico, will be placed in contact with Allan Hyde by this team to determine the feasibility of this fishery. If that study shows commercial

potential the shrimp/lobster industry association will provide partial funding to develop the fishery. Mr. Hyde expressed his willingness to visit the AID Mission to discuss the development of this joint venture. Such a joint venture could involve U.S. fishery interests who have been in this type of fishery for many years.

4. Training

A comprehensive training program should be developed, including formal graduate training, in-service courses, workshops and technician/enforcement personnel training. Sufficient human resources to implement programs in fisheries and coastal zone management do not exist in Honduras.

Under the University of Rhode Island's Cooperative Agreement, a one or two week workshop can be conducted in a selected developing country. In concurrence with the development of the proposed PID, a team could offer a 10 day to 2 weeks in-country workshop for small scale fishery administrators, biologists and social scientists.

Using the newly produced manual (available in Spanish by December, 1983) "A Guide for the Small-Scale Fishery Administrator: Information from the Harvest Sector", a team could conduct an in-country course at a north coast location possibly La Ceiba. The course purpose is a practical one: to assist in identifying important data and in designing and executing data collection programs which will generate information concerning the resource and harvesting section of any small scale fishery. Participants for the course should represent a mixture of fisheries scientists and social scientists who will be charged with the responsibility of conducting the resource assessment and determine policy decisions for the long term fisheries management plan.

During the conduct of the training course and the development of the proposed PID, the team will also identify the training needs of RENARE staff and develop a 5 year training plan. The staffing cost and transportation to Honduras for this training program could be financed under the URI - S & T cooperative agreement. The only cost to the Mission and GOH would be the in-country costs of the training staff and participants.

5. Honduras shares the Gulf of Fonseca with El Salvador on the North and Nicaragua on the South. Honduras portion is comprised of an extensive mangrove estuarine area which serves as a nursery area for most of the region's fish and shrimp resources. However, owing to the present geographic and political situation Honduras can only fish in a limited area of the Gulf.

At present mangrove wood is indiscriminately cut for use in the existing salt extracting industry. The wood is used to fire the brine boilers as a supplement to solar drying in salt ponds.

It is suggested that an alternate use for the salt ponds be considered, such as the culture of brine shrimp for which a market exists worldwide. If feasible this would probably provide an increased income to the salt processors and eliminate the need for fire wood. This in turn would solve the present ecological problem of mangrove cutting.

The proposed 5 recommendations complement the proposed or on-going projects of other donor agency programs in fisheries and coastal zone management.

6. Special Recommendations

We recommend that fisheries enforcement should be improved to ensure that management practices are effectively carried out so Honduran fishery resources will not be over fished. USAID/Honduras should discuss with the GOH on ways to develop enforcement techniques. Advice on enforcement procedures are available from NMFS.

We also recommend that enforcement functions should be separated from data collection, research and training functions. This is to overcome the current lack of empathy which exists between GOH statistical agents, researchers and fishermen.

GOH personnel need the cooperation of Honduran fishermen to successfully manage the fisheries.

We also encourage the plan that is being negotiated with the National University to plan and conduct research for marine fishery resources.

ADDENDUM

Based on production models of tropical shelves it has been computed that production is 4 to 6 m.t. with a harvestable yield of 1 to 1.5 m.t. per Km².

Using these figures for Honduras' continental shelf of 49,000 Km² total production could be increased by 58,000 m.t./yr.